AMERICAN MUSEUM NOVITATES

Number 628 — Published by THE AMERICAN MUSEUM OF NATURAL HISTORY New York City — June 2, 1933

59.88, 1 M (96)

BIRDS COLLECTED DURING THE WHITNEY SOUTH SEA EXPEDITION. XXIV[1]

NOTES ON POLYNESIAN FLYCATCHERS AND A REVISION OF THE GENUS *CLYTORHYNCHUS* ELLIOT

BY ERNST MAYR

The confusion among the Polynesian flycatchers has made urgent the need for a revision. The present classification is very artificial, especially as the main character on which the classification is based, the shape of the bill, is not only different in every genus, but even varies sometimes in the races of the same species.

There are a few fairly circumscribed genera of flycatchers that extend into Polynesia, as *Rhipidura*[2] and *Myiagra*. Other species agree in general color pattern, in the structure of the plumage, in the shape of the wing, in the structure of tarsus and feet, and other characters, but show many peculiarities in the shape of the bill. While the ordinary flycatcher bill is depressed, these birds have a bill that is as high as it is wide, or even decidedly compressed. This variation is deceptive enough to have caused the birds to be arranged in entirely different families, as, for example, in the Prionopidae or Laniidae. I called attention to this in my paper on the birds of Rennell Island,[3] p. 24, stating: "*Pinarolestes* is not a genus of shrikes, as we find it placed in most modern reviews and catalogues, but it is most closely related to two genera of flycatchers, *Monarcha* and *Pomarea*."

Still more striking than the removal of *Pinarolestes* (correctly *Clytorhynchus*) from the shrikes, is another discovery I made during these studies. I found that "*Lalage*" (=*Neolalage*) *banksiana* is not a cuckoo-shrike at all, but a flycatcher, which agrees rather well in its structure with *Mayrornis* except for the different color pattern and stronger feet.

The genera *Pomarea*, *Metabolus* (of which *Monacharses* Mathews is probably a synonym), *Mayrornis*, and *Neolalage* are all more or less closely related to *Monarcha*, and it would be somewhat difficult to

[1] Previous papers in this series comprise American Museum Novitates Nos. 115, 124, 149, 322, 337, 350, 356, 364, 365, 370, 419, 469, 486, 488, 489, 502, 504, 516, 520, 522, 531, 590, and 609.

[2] 1931, Amer. Mus. Novit., No. 502.

[3] 1931, Amer. Mus. Novit., No. 486, p. 24.

work out any definite generic characters. They all have a bill that is rather narrow for a flycatcher, but still is usually as broad as high at the nostrils.

When discussing the members of the genus *Pomarea*,[1] Murphy and Mathews did not mention *P. dimidiata* (Hartlaub and Finsch) from the Cook Islands, southwest of Tahiti. Hartlaub and Finsch emphasized the similarity of the new bird to "*Monarches*" [=*Pomarea*] *niger*, and their description agrees well with this viewpoint.

I have examined most of the known specimens of this species in the museums of Bremen, Hamburg, and London, and I fully agree with Hartlaub and Finsch. Mr. Delacour, with whom I inspected the specimens in the British Museum, even suggested that *dimidiata* be regarded as a subspecies of *nigra*. The color characters are undoubtedly essentially the same, but the bill is somewhat longer and flatter than in *nigra*. The genus *Rorotonga* Mathews,[2] based on *M. dimidiata* Hartlaub and Finsch, therefore has to be considered as a synonym of *Pomarea*.

A specialization occurs in the genus *Clytorhynchus*. The bill is compressed laterally, has a hook, and reaches an enormous size in the larger species of the genus. Nevertheless, a close study soon convinces one that it is really quite a near relative of *Mayrornis* and *Pomarea*.

It may be well to mention in this connection that neither does the genus *Pachycephala* belong to the shrikes. The exact position of this genus is doubtful, but, together with some of the related genera, it seems to belong in the vicinity of the flycatchers. As a matter of fact, there are several species in the Papuan region that have been united with *Pachycephala* by some authors and with *Poecilodryas* by others. There is certainly no sharp line.

Two more of the Polynesian genera are referred to the flycatchers, but they belong to different sections of that family. *Gerygone* has already been treated in American Museum Novitates No. 486, 1931, pp. 22–23, and *Petroica*, which occurs in Polynesia with only one species, will be reviewed in a paper which I will prepare soon. The present paper contains a revision of the genus *Clytorhynchus* Elliot. The genera *Myiagra*, *Mayrornis*, *Neolalage* and *Petroica* remain to be treated in the future.

CLYTORHYNCHUS Elliot

Clytorhynchus ELLIOT, 1870, Proc. Zool. Soc. Lond., p. 242. Type (by monotypy): *C. pachycephaloides* Elliot.

[1] Murphy and Mathews, 1928, Amer. Mus. Novit., No. 337, pp. 1–9.
[2] Mathews, 1925, Bull. Brit. Orn., Club, XLV, p. 93.

Pinarolestes SHARPE, 1877, 'Cat. Birds Brit. Mus.,' III, p. 293. Type (by original designation): *Myiolestes vitiensis* Hartlaub.

GENERIC CHARACTERS.—A flycatcher of the *Pomarea*, *Chasiempsis*, *Mayrornis*, and *Monarcha* group, but differs in the large, elongated and laterally much compressed bill; tarsi long and strong; tail long; longest secondary usually longer than second primary; feathers on forehead dense and somewhat stiff; usually no sexual dimorphism in coloration.

The classification of this group has not made much progress since the publication of the 'Catalogue of the Birds in the British Museum,' III (1877). In that publication Sharpe, basing his work partly on earlier authors, confused the classification of the genus so completely that it has not yet been clarified.

To mention first the generic problem, Sharpe included the Papuan *megarhynchus* (and allies) and the Polynesian *vitiensis* (and allies) in one genus. For this genus he created a new name (*Pinarolestes*), assuming that Bonaparte's *Myiolestes* was preoccupied by Cabanis's genus of the same name. But as I have shown recently,[1] Bonaparte's name has at least ten months' priority. Sharpe complicated matters further by selecting *vitiensis* as the type for the "renamed" Bonapartian genus, although none of the Polynesian species was originally included in Bonaparte's genus. He furthermore overlooked (as did every subsequent author) the fact that *vitiensis*, the type species of his new genus *Pinarolestes* (1877) is a geographical representative of *pachycephaloides*, the type species of Elliot's genus *Clytorhynchus* (1870), which Sharpe treated in the eighth volume of the 'Catalogue of Birds.' His genus therefore becomes a synonym of Elliot's, while the Papuan birds, which are generically different, have to be put in the genus *Myiolestes* Bonaparte (1850) [*nec* Cabanis, 1851].

Concerning the specific classification, Sharpe tried (ibid., III, pp. 299–302) to use subspecies against his usual principles, but he had very doubtful success. He divided the Polynesian members of his genus "*Pinarolestes*" into four species: *P. heinei*, *P. vitiensis* (with *buensis*, *fortunae*, and *compressirostris* as subspecies), *P. macrorhynchus* (with *maximus* as subspecies), and *P. nigrogularis*. In fact *heinei* and *macrorhynchus* are subspecies of *vitiensis*, while *maximus* is a synonym of *nigrogularis*. The other *Clytorhynchus* (*pachycephaloides*) he attributed to a different family and treated it in another volume (VIII) of the 'Catalogue of Birds in the British Museum.'

Wiglesworth ('Aves Polynesiae,' p. 27) did not improve on this system except by putting *pachycephaloides* in the vicinity of *vitiensis*,

[1] 1931 (Dec.), Mitt. Zool. Mus. Berlin, XVII, p. 675.

following the lead of Layard. Wetmore (Ibis, 1925, pp. 850–851) also did not suggest any improvements, apparently on account of insufficient material. Mathews ('Syst. Av. Austr.,' pp. 649–650), who had examined the material of the Whitney Expedition, the same material I have before me, correctly included *heinei*, *powelli*, and *nesiotes* in the species *vitiensis*, but otherwise copied the errors of his predecessors.

The Whitney material shows clearly that we have two groups of species in this genus: one with large birds and one with small ones. I shall begin with the treatment of the small forms, since the typical species of the genus belongs to this group.

SUPERSPECIES *Clytorhynchus vitiensis*

RANGE.—Southern Melanesia and Central Polynesia. Includes two species: *pachycephaloides* (Southern Melanesia) and *vitiensis* (Central Polynesia).

Clytorhynchus pachycephaloides

RANGE.—New Caledonia, New Hebrides, Banks and Torres Islands.

Clytorhynchus pachycephaloides pachycephaloides Elliot

Clytorhynchus pachycephaloides ELLIOT, 1870, Proc. Zool. Soc. Lond., p. 242, New Caledonia.

TYPE.—No. 7672, Amer. Mus. Nat. Hist.; ♂ ad.; New Caledonia.

MEASUREMENTS OF TYPE.—Wing, 88.5; tail, 80; tarsus, 21; culmen, 24; exposed culmen, 19.

RANGE.—New Caledonia.

The type is in rather poor condition and so foxed that the color can no longer be described with accuracy. The tips of the wing-feathers and tail-feathers are worn off; the small white tip on the second tail-feather (next to the central) is not visible. The measurements given by Elliot in the original description are somewhat too small, a point which has been stressed by several authors.[1] On the other hand, the measurements given by Layard[2] are obviously too large. I have given therefore the correct measurements.

Aside from its somewhat larger bill, this bird is surprisingly similar to *vitiensis*, and it may be of interest to repeat what Layard said about this bird fifty years ago.[3] "It is exactly like a *Myiolestes* in shape and coloration, and, but for the bill, would be taken for one when in the hand. Mr. Cockerell, the zoölogical collector, now here on his way to

[1] All the measurements were compiled by Sarasin, 1913, 'Vögel Neu-Caledoniens,' p. 32.
[2] 1879, Ibis, pp. 110, 111.
[3] 1879, Ibis, pp. 110, 111.

the Solomon Islands, on being shown this bird by us exclaimed, 'Why, I shot that in Fiji!' He was thinking of *Myiolestes vitiensis*."

Clytorhynchus pachycephaloides grisescens Sharpe

Clytorhynchus grisescens Sharpe, 1899, Bull. Brit. Orn. Club, X, p. 29, Espiritu Santo, New Hebrides (type examined).

Clytorhynchus vatensis Sharpe, 1899, ibid., p. 29, "Vaté" = Efate (type examined).

Adult (male and female).—Similar to *pachycephaloides*, but less rufous, more olive on the upperside, and more grayish underneath. Upperside dark brown, with a slight olive tinge (near mummy brown, R. XV), lighter on forehead, and more rufous on rump and upper tail-coverts; underside much lighter and somewhat tending toward a gray color; throat dull buffy gray, slightly streaked by having dark gray shaft-streaks on all feathers of the upper throat; sides of head, ear-coverts, and rest of underside dull grayish clay-color; sides of breast and flanks washed with cinnamon or rufous cinnamon; under tail-coverts with broad white edges as in *pachycephaloides;* tail-feathers fuscous, edged with olivaceous brown near the base; shafts black, underneath white; white tips of decreasing size on all but the central pair of tail-feathers; wings blackish brown, with brown or cinnamon-brown edges to the wing-feathers and upper wing-coverts; axillaries whitish, washed with grayish buff; under wing-coverts gray with whitish edges; inner edges of wing-feathers buff.

Immature (male and female).—Similar to adult, but bill not bluish lead-gray with whitish edges, but blackish brown; wing-feathers more rounded, softer and with more conspicuous brown edges; tail-feathers narrower and more pointed.

Nestling (juvenal).—Entire body covered with a soft down which is dull rufous-brown on the upperside, and dull grayish drab underneath; the middle of the belly is whitish.

Tarsus 22–23; culmen, from base 24–25.

		Wing	Tail
Efate	12 ♂ ad.	92–97 (94.4)	78–87 (81.5)
Mai	6 ♂ ad.	90–94 (92.3)	79–83 (81.2)
	2 ♀ ad.	90, 90	80, 80
Epi	12 ♂ ad.	91–97 (93.2)	79–86 (81.3)
	5 ♀ ad.	89–93 (90.6)	76–81 (78.2)
Santo	11 ♂ ad.	89–94 (91.8)	75–81 (77.6)
	8 ♂ im.	84–88 (86.3)	75–79 (77.1)
	6 ♀ ad.	88–90 (89.0)	74–77 (75.8)
	5 ♀ im.	84–86 (85.4)	75–77 (76.1)
Vanua Lava	5 ♂ ad.	91–94 (92.4)	76–81 (78.6)
	5 ♀ ad.	87–91 (89.0)	74–78 (75.5)
Hiu, Torres	9 ♂ ad.	88–94 (91.0)	77–81 (79.6)

Range.—New Hebrides (Efate, Mai, Pauuma, Lopevi, Aoba, Epi, Aurora, Pentecost, Malekula, Malo and Santo), Banks Islands (Vanua Lava, Meralav, Gaua, Valua, and Bligh), and Torres Islands (Hiu).

There is a great deal of individual variation; some specimens are duller and more sand-colored, others richer and more rufous. Possibly

there is also a slight geographical variation. Sharpe named the bird from Efate from one specimen, stating that "it appears to be slightly different" from the New Caledonian species. Undoubtedly it is! But Sharpe does not give any differences between it and the Santo bird. The extensive material at hand shows that there are no such differences. The Whitney series from Santo is rather dull and sandy colored, but all the specimens are extremely worn. Birds from the Banks Islands and even of the Torres Islands are as richly colored as those from Efate. The Torres Island series agrees very well with birds from other localities, except that most specimens have cheeks, lores, and forehead unusually grayish. In size the birds from the various islands also agree very well with each other. On the average birds from Efate are somewhat larger, but there is a decided overlapping.

Clytorhynchus vitiensis

RANGE.—Fiji Islands, Rotumah, Horne Islands, Samoa, and Tonga group.

Part of this range is inhabited by some quite pronounced subspecies. In the Fiji Islands, however, it is rather difficult to work out subspecies that are well defined and geographically restricted. The few distinguishing characters that are present in this species, such as the shape of the bill, the extent of the white on the tips of the tail-feathers, the proportions, and the general coloration, not only vary individually a great deal but also change slightly from island to island.

One can distinguish four extremes on the four corners of the range of this species within Fiji: Kandavu (S.W.), Viti Levu (N.W.), Taviuni (N.E.), and Lau Archipelago (S.E.), but the birds from all the other islands combine characters of all these four races. It is somewhat a matter of opinion to which subspecies the populations of some of the islands should be referred, and also whether or not additional races should be described from intermediate localities.

Layard and other authors have frequently mentioned the great differences in size between birds from several islands of the Fiji group. The following table of most carefully taken measurements will show that these differences are not very striking and also that the extremes are well bridged by populations from intermediate localities.

Measurements of Adult Males

		Wing	Tail	Culmen
Kandavu	8 ♂	82–90 (86.6)	67–77 (72.6)	22.3–24.8 (23.2)
Ono	2 ♂	83, 87 (85.0)	70, 74 (72.0)	24.0, 24.4 (24.2)
Mbengha	7 ♂	86–90 (87.7)	74–78 (75.5)	22.0–22.9 (22.3)
Viti Levu	9 ♂	87–94 (90.5)	75–81 (78.4)	22.6–24.2 (23.3)
Ovalau	5 ♂	88–90 (88.8)	76–78 (77.0)	21.3–22.3 (22.0)
Wakaya	1 ♂	86	74	
Makongai	1 ♂	90	78	22.8
Namena	5 ♂	86–91 (89.0)	74–77 (75.0)	21.7–24.0 (23.2)
Ngau	11 ♂	84–88 (85.7)	72–75 (73.5)	22.1–23.7 (22.8)
Koro	11 ♂	85–90 (87.4)	71–76 (74.0)	21.1–23.9 (22.6)
Vanua Levu	10 ♂	89–94 (91.2)	76–83 (79.1)	22.6–24.3 (23.4)
Kio	3 ♂	88, 92 (89.3)	74–79 (77.0)	23.1–23.9 (23.5)
Taviuni	11 ♂	89–95 (92.1)	76–80 (78.0)	23.3–25.8 (24.2)
Rambi	5 ♂	90–93 (91.6)	79–84 (80.8)	23.9–25.1 (24.4)
Ngamia	4 ♂	94–96 (95.2)	79–82 (80.5)	24.9–25.3 (25.1)

Measurements of Adult Females

		Wing	Tail	Culmen
Kandavu	5 ♀	81–85 (83.4)	68–74 (71.6)	21.5–23.9 (23.1)
Ono	2 ♀	81, 83 (82.0)	70, 70 (70.0)	21.4, 22.8 (22.1)
Mbengha	5 ♀	84–86 (85.0)	74–75 (74.2)	22.1–22.8 (22.4)
Viti Levu	5 ♀	86–89 (87.0)	75–80 (76.6)	22.3–24.0 (23.1)
Ovalau	4 ♀	84–86 (85.0)	73–75 (74.5)	21.7–22.2 (22.0)
Wakaya	2 ♀	84, 86 (85.0)	74, 76 (75.0)	22.0–22.9 (22.4)
Makongai	2 ♀	85, 85 (85.0)	72, 72 (72.0)	21.6, 22.4 (22.0)
Namena	4 ♀	85–89 (87.0)	72–78 (75.2)	21.2–22.9 (22.2)
Ngau	6 ♀	84–87 (85.5)	72–77 (74.2)	21.8–23.1 (22.4)
Koro	4 ♀	84–87 (85.8)	71–74 (72.5)	22.4–23.8 (23.0)
Vanua Levu	4 ♀	85–90 (88.0)	74–78 (75.8)	22.8–24.0 (23.4)
Kio	2 ♀	87, 89 (88.0)	73, 79 (76.0)	23.9, 24.9 (23.4)
Taviuni	5 ♀	85–91 (88.4)	74–76 (75.0)	23.4–24.8 (23.7)
Rambi	2 ♀	84, 89 (86.5)	75, 77 (76.0)	24.0, 24.7 (24.4)
Ngamia	2 ♀	91, 92 (91.5)	79, 80 (79.5)	

Clytorhynchus vitiensis vitiensis (Hartlaub)

Myiolestes vitiensis Hartlaub, 1866, Ibis, p. 173, Ovalau.

Adult Male.—Crown, back, and scapulars sepia brown, rump and upper tail-coverts more rufous; lores, superciliaries, and sides of head dull brownish-gray; underside more or less dirty buffy or olivaceous gray, middle of abdomen lighter; sides of throat and breast washed with olive-brown; flanks tawny; wings dark brown, upper wing-coverts and wing-feathers narrowly edged with rufous or cinnamon-brown; axillaries and under wing-coverts gray with a slight brownish wash; tail dark brown, tail-feathers with narrow cinnamon edges near the base; outer three tail-feathers with broad white or buffy white spots on the tip of the inner web; on the outermost tail-feather also some white on the tip of the outer web; size and color of these spots vary considerably.

ADULT FEMALE.—Not perceptibly different from males; white spots on tip of tail-feathers perhaps averaging smaller.

Iris brown, bill black with whitish tomia, feet bluish gray.

IMMATURE.—In coloration similar to the adult, but bill entirely blackish; first primary rounded; wing-feathers softer; tail-feathers narrower.

NESTLING.—Body plumage very soft and downy; upperside rufous-brownish, underside whitish, more cinnamomeous on the sides of the breast and flanks; bill black.

MEASUREMENTS.—See table, p. 7.

To *vitiensis* I refer also the populations of some of the islands in the vicinity of Ovalau. However, as they have in each case certain characters of their own, I shall describe separately the populations of each of these islands as compared with Ovalau birds.

VITI LEVU.—Slightly larger, with longer bills; tips of tail-feathers on the average purer white; upper throat, lores and sides of head darker, black bases of the feathers more pronounced; upperside less rufous; hind neck and crown with a more distinct grayish olive tinge.

WAKAYA AND MAKONGAI.—The few specimens from these two islands agree in every respect with typical *vitiensis*.

NAMENA.—Agree in size and coloration very well with Viti Levu specimens; tail short. In some specimens the olive-gray tinge of hind neck and crown is rather pronounced, thus slightly approaching *buensis*.

KORO.—Also very similar to typical birds; upperside slightly more grayish olive; ear-coverts lighter and less brownish; under tail-coverts paler, less rufous; tips of tail-feathers more whitish; bill slightly heavier.

NGAU.—Smaller than *vitiensis*, particularly in the male sex; bill finer, more compressed; upperside lighter, less dark brown, more cinnamon, less rufous; tail-feathers and wing-feathers lighter brown; grayish parts of underside washed with olive-buff; middle of belly not as light as in *vitiensis;* rufous of flanks and under tail-coverts less tawny, more cinnamon; sides of head lighter; whitish edge of mandibles broader. These birds thus tend in several respects toward the characters of *compressirostris*, but are still clearly referable to *vitiensis*.

MBENGHA.—Somewhat intermediate between *vitiensis* and *compressirostris*, but nearer to *vitiensis;* differs from Ovalau birds in smaller size; bill of a shape similar to *vitiensis*, not long and compressed; upperside dark as in *vitiensis*, sometimes with a dark rufous wash; underside also sometimes rather washed with rufous, but in the series more like *vitiensis* without the buffy tone of *compressirostris*. Remarkable in this population is the high number of specimens in the rufous phase, which occurs only arely on other islands.

RANGE.—Ovalau, Viti Levu, Namena, Wakaya, Makongai, Koro, Ngau, and Mbengha, Fiji Islands.

Clytorhynchus vitiensis compressirostris (Layard)

yiolestes compressirostris LAYARD, 1876, Ibis, p. 153, Kandavu Island (ibid., p. 392).

SUBSPECIFIC CHARACTERS.—Similar to *vitiensis*, but smaller; bill longer and much more compressed laterally; whitish edges of tomia much broader; gonys more or less whitish; underside less grayish, distinctly washed with buff, lower belly not so light; flanks and under tail-coverts lighter tawny; sides of head, throat, and breast lighter; upperside distinctly lighter; back, rump, and upper tail-coverts much more brightly rufous, distinctly different from crown and hind neck; wings and tail not so deep brown, much more rufous; edges of wing-feathers and tail-feathers tawny or rufous; whitish tips on the tail-feathers large and very distinctly washed with rufous, never as pure whitish as in some specimens of *vitiensis*.

IMMATURE PLUMAGE.—One immature male from Vanuakula has the bill entirely black and has other characters of immaturity; upperside darker, with less rufous in the plumage; underside clearer, less buffy.

MEASUREMENTS.—See table, p. 7.

RANGE.—Kandavu, Ono, Vanuakula, Fiji Islands.

Birds from Ono agree perfectly with Kandavu birds. No adult was collected on Vanuakula.

Clytorhynchus vitiensis buensis (Layard)

M. [*yiolestes*] *buensis* LAYARD, 1876, Ibis, p. 145, Mbua Bay, Vanua Levu, Fiji.

SUBSPECIFIC CHARACTERS.—Similar to *vitiensis*, but slightly larger, with a heavier bill; underside less grayish, somewhat washed with olive-buff; rufous flanks less conspicuous, under tail-coverts less rufous; upperside very different, much lighter and with a grayish olive, not brownish rufous, tinge; lores, sides of head, ear-coverts, and sides of neck much lighter, more grayish, less brownish; wings and tail on the average lighter, tending more to grayish cinnamon than to rufous brown; whitish tips of tail-feathers large as in *vitiensis*, sometimes strongly washed with rufous.

MEASUREMENTS.—See table, p. 7.

RANGE.—Vanua Levu and Kio Islands, Fiji Islands.

Birds from Kio Island agree very well with Vanua Levu birds.

There is no specimen in the British Museum that can be considered the actual type of this form; however, there is a series of six specimens from Bua Bay identified as *buensis* by Layard himself. These specimens are probably the cotypes of *buensis*. The measurements given by Layard in his original description are obviously wrong, as are most of Layard's measurements; he gives for the wing 82 mm., for the tail 84, for the bill 27.5, and for the tarsus 23 (Ibis, 1876, p. 146). This is too large for tail, bill, and tarsus, and too small for the wing. However, the name *buensis* cannot be referred to *nigrogularis*, since all the specimens in the British Museum that were referred by Layard to *buensis* belong to the smaller species (*vitiensis*). The name *buensis* will have to be applied therefore to the geographical representative of *vitiensis* on Vanua Levu.

Clytorhynchus vitiensis layardi, new subspecies

TYPE.—No. 252357, Amer. Mus. Nat. Hist.; ♂ ad.; Taviuni Island, Fiji Islands; December 13, 1924; R. H. Beck and J. G. Correia.

?Pachycephala macrorhyncha LAYARD, 1875, Proc. Zool. Soc. Lond., p. 150, Taviuni, preoccupied by *Pachycephala macrorhyncha* Strickland, 1849.

?Myiolestes macrorhynchus LAYARD, 1876, Ibis, p. 145 (new combination).

SUBSPECIFIC CHARACTERS.—Similar to *buensis* Layard, but slightly larger and with stronger bill; underside very different, strongly washed olivaceous ochre or buff; middle of abdomen not distinctly whitish; tawny sides of breast and flanks not so strongly contrasting with the rest of the under surface; under tail-coverts tawny; upper surface rather bright and rufous, resembling that of *compressirostris*, not as dull brownish as in *vitiensis*, or as grayish olive as in *buensis;* lower back and rump strongly rufous, crown and nape with a slight olive tinge; ear-coverts, sides of head, and of throat with a warm brown tinge, not as grayish as in *buensis* or as dull brown as in *vitiensis;* wings and tail strongly washed with rufous brown; tips of tail-feathers buffy to rufous, small and not always very pronounced; sometimes only indicated as a lighter apical zone of the tail-feathers.

MEASUREMENTS.—See Table, p. 7.

RANGE.—Taviuni Island, Fiji.

The nomenclature of this subspecies has been in a great muddle up to date. In 1875 (Proc. Zool. Soc. Lond., p. 150) Layard described a *Pachycephala macrorhyncha* from Taviuni Island, which he called *Myiolestes macrorhynchus* in the following year (Ibis, 1876, p. 145). This name was applied to the larger species of *Clytorhynchus* by most of the subsequent authors (Sharpe, Wiglesworth, Wetmore, and Mathews). The type apparently is no longer in existence, and we have to rely on Layard's description for an identification. The color characters he gives (in 1875 and 1876) apply fairly well to *layardi*, but his measurements are rather confused, as can be seen from the following transcription of his inches and lines into millimeters.

	WING	TAIL	BILL	TARSUS
layardi, Whitney Series ♂ and ♀	85–95	74–80	23.3–25.8	20.0–21
macrorhynchus (P. Z. S., 1875)	89	76	25.4	21.0
macrorhynchus (Ibis, 1876)	84	95	29.6	27.5

The measurements given in 1875 fit *layardi* well, but the different measurements given in 1876 for the same form (sic!) are obviously impossible, since in no form of *Clytorhynchus* is the tail longer than the wing. Layard's remark (Ibis, 1876, p. 146): "The bills of *M. buensis* and *M. macrorhynchus* much exceed the others [*vitiensis* and allies] in length, and are nearly twice as thick" was probably the principal reason why many subsequent authors associated *macrorhynchus* with *maximus* (=*nigrogularis*). Layard, however, calls his newly discovered form *maximus* (Ibis, 1876, p. 153) "the giant of the genus, far exceeding *M. macrorhynchus* in size; its bill is the chief feature." By this statement he puts *macrorhynchus* rather definitely among the smaller species of *Cly-*

torhynchus. A series of birds in the British Museum, labeled *M. macrorhynchus* by Layard himself, consists of birds of the smaller species. It is therefore probable that most of the recent ornithologists were mistaken in referring the name *macrorhynchus* to a representative of the larger species.

The name *macrorhynchus* is preoccupied and could not be used any more even if it could be definitely associated with one of the Fijian forms of *Clytorhynchus*. The identity of *macrorhyncha* Layard, however, can not be assured with certainty, as the type is lost, although I have shown in the previous discussion that it refers most likely to the smaller species. In the face of this situation it seems wiser not to rename *macrorhynchus* Layard but simply to describe as a new subspecies the geographical representative of *vitiensis* on Taviuni and to refer to it as doubtful synonym *Pachycephala macrorhyncha* Layard (*nec* Strickland).

The smaller islands of eastern Fiji are inhabited by a series of subspecies which form a complete bridge between *vitiensis* and *buensis* of the western Fiji islands, and *heinei* of the Tonga group.

The first step in this direction is *pontifex* which already has practically the large size of *heinei*, but in coloration is still similar to *buensis*. The next step is *vatuana*, which has the underside much lighter and purer gray than any bird in the western Fijis; *nesiotes* combines this with a reduction of the rufous tones on the upperside; the final step in this direction is *heinei*, in which form the brownish colors in the plumage are almost entirely eliminated.

Clytorhynchus vitiensis pontifex, new subspecies

TYPE.—No. 252318, Amer. Mus. Nat. Hist.; ♂ ad.; Ngamia Island, Fiji Islands; Nov. 25, 1924; R. H. Beck and J. G. Correia.

SUBSPECIFIC CHARACTERS.—Similar to *buensis*, but much larger and with stronger bill (see measurements) underside purer gray, less washed with buff; under tail-coverts lighter; tips of tail-feathers more rarely washed with rufous, usually more whitish; upperside similar to that of *buensis*.

		WING	TAIL	CULMEN
Ngamia	4 ♂ ad.	94–96 (95.2)	79–82 (80.5)	24.9–25.3 (25.1)
	2 ♀ ad.	91, 92	79, 80	
	1 ♀ imm.	91	78	24.6
Rambi	4 ♂ ad.	91–93 (92.0)	79–84 (80.5)	23.9–24.8 (24.2)
	2 ♂ imm.	85, 90	79, 82	23.6, 25.1
	2 ♀ ad.	84, 89	75, 77	24.0, 24.7

RANGE.—Ngamia and Rambi Island, Fiji Islands.

It is with some hesitation that I include the Rambi birds in the range of *pontifex*. They have rather strong bills and also have the under surface

rather grayish, but they are of the general size of *buensis* and *taviunensis*, and have the upperside more rufous brown than either. If one does not want to create a new form on these slight characters, it seems to be best to include these birds with *pontifex*.

Clytorhynchus vitiensis vatuana, new subspecies

TYPE.—No. 252270, Amer. Mus. Nat. Hist.; ♂ ad.; Tuvutha Island, Fiji Islands; September 10, 1924; R. H. Beck and J. G. Correia.

SUBSPECIFIC CHARACTERS.—In size and coloration of the underparts very similar to *nesiotes;* however, chin, throat, breast, and sides of throat lighter and less pure gray; under tail-coverts darker buff; forehead, lores, and chin less blackish; upperside very different, much lighter; on crown and hind neck tending to olivaceous cinnamon; back, rump, and upper tail-coverts brighter rufous, not so dull brown; edges of wing-feathers and tail-feathers brighter and more rufous; differs from *pontifex* by the grayish underside which is hardly washed with any buff, by having the tips on the tail-feathers pure white and much smaller; approaching *pontifex* in the coloration of the upperparts.

		WING	TAIL	CULMEN
Tuvutha	9 ♂ ad.	99–102 (100.7)	78–84 (82.3)	24.6–26.2 (25.5)
	1 ♀ ad.	96	82	24.7
Yathata	5 ♂ ad.	94–100 (96.4)	75–85 (80.4)	24.1–25.6 (24.9)
	3 ♀ ad.	93, 95, 97	78, 80, 81	23.0, 23.9, 24.2
Vatu Vara	1 ♂ ad.	95	79	24.8
	2 ♀ ad.	95, 95	79, 79	23.8, 24.1

RANGE.—Northern Lau Archipelago (Tuvutha, Yathata, and Vatu Vara), Fiji Islands.

The birds from Yathata and Vatu Vara can be referred to *vatuana*, although they show some minor differences. They are slightly smaller, and particularly the Vatu Vara specimens show less rufous, more olivaceous cinnamon on the upperside. They agree, however, in the coloration of the underparts and in the bright (not dull as in *nesiotes*) coloration of the upper surface.

Clytorhynchus vitiensis nesiotes (Wetmore)

Pinarolestes nesiotes WETMORE, 1919, Bull. Mus. Comp. Zoöl., LXIII, p. 216, Kambara, Lau Archipelago, Fiji Islands.

SUBSPECIFIC CHARACTERS.—See original description, and see above, under *vatuana*, and below under *heinei*, p. 13.

		Wing	Tail	Culmen
Kambara	11 ♂ ad.	96–102 (99.3)	75–81 (78.9)	24.6–26.6 (25.3)
	10 ♀ ad.	95–100 (97.8)	76–81 (79.1)	24.2–27.1 (25.3)
Wangava	2 ♂ ad.	98, 104 (101.0)	82, 85 (83.5)	26.1, 26.7 (26.4)
	3 ♀ ad.	97, 98, 100	79, 80, 80	25.7, 25.8, 25.9
Fulanga	2 ♂ ad.	102, 103 (102.5)	80, 80 (80.0)	25.9, 27.1 (26.5)
	1 ♀ ad.	101	81	26.1
Ongea Levu	9 ♂ ad.	99–103 (100.3)	79–85 (82.6)	24.2–26.0 (25.3)
	11 ♀ ad.	95–100 (97.8)	76–83 (80.2)	24.7–26.7 (25.5)
Yangasa Cluster	3 ♂ ad.	102, 104, 105	82, 85, 85	24.4, 24.7, 25.8
	3 ♀ ad.	97, 99, 99	80, 81, 83	23.6, 23.7, 25.8
Namuka ilau	6 ♂ ad.	97–101 (98.8)	79–81 (79.8)	25.1–25.9 (25.4)
	5 ♀ ad.	94–99 (96.2)	76–81 (78.7)	24.8–25.8 (25.3)
Oneata	1 ♂ ad.	102	80	25.3
	1 ♀ ad.	99	83	24.8
Aiwa	4 ♂ ad.	96–103 (100.0)	80–83 (81.5)	25.3–26.6 (25.9)
	4 ♀ ad.	95–99 (96.5)	75–78 (76.5)	23.6–25.0 (24.4)

Tarsus, 23–24; exposed culmen, 21–22 mm.

Range.—Southern Lau Archipelago (Wangava, Kambara, Fulanga, Ongea Levu, Yangasa Cluster, Namuka ilau, Oneata, and Aiwa).

Birds within this range are very uniformly colored. The size, however, varies somewhat from island to island.

Wetmore, in his original description, compared this bird with *vitiensis* and *compressirostris* from the Fiji Islands. It is, however, really nearer to *heinei* from Tonga and forms a perfect link between *vitiensis* and *heinei*.

Clytorhynchus vitiensis heinei (Finsch and Hartlaub)

Myiolestes heinei Finsch and Hartlaub, 1869, Proc. Zool. Soc. Lond., p. 546, Tonga Islands.

Description.—Crown, back, and scapulars fuscous brown, lower back and rump of a warmer brown; lores, cheeks and feathers around the eye dark, almost blackish; ear-coverts dull brownish-gray; underside gray, darker on the breast, lighter, almost white in the middle of the abdomen; flanks dull grayish-cinnamon; thighs gray; wings fuscous brown, edges of the primaries dull grayish-brown, of the secondaries and wing-coverts cinnamon; axillaries and under wing-coverts light gray; upper tail-coverts grayish brown or of the color of the rump; under tail-coverts whitish or light buffy with the bases of the feathers grayish; tail fuscous, large white tips (outer and inner web) on the three outer tail-feathers (VI–IV), small tip on III, very small tip on II (sometimes missing) and no tip on the central part of tail-feathers.

Bill blackish with broad whitish edges on maxilla and mandible; tip of mandible also extensively whitish.

Differs from *nesiotes* by smaller wing and bill, by having more white on the bill, by being more grayish, and lighter underneath, and by having much broader white tips on the tail-feathers.

		Wing	Tail	Culmen
Hongahapai	3 ♂ ad.	94, 97, 99	79, 82, 82	23.9, 26.1, 26.7
	3 ♀ ad.	92, 93, 94	78, 79, 79	24.9, 26.0, 26.8
Kelefesia	8 ♂ ad.	93–96 (94.9)	76–82 (78.8)	23.9–25.5 (24.5)
	6 ♀ ad.	91–94 (92.3)	73–80 (76.0)	22.9–25.3 (24.4)
Ofalanga	8 ♂ ad.	95–99 (97.4)	77–81 (79.0)	23.2–25.8 (24.6)
	2 ♀ ad.	95, 96	75, 78	25.0, 25.0
Kao	10 ♂ ad.	95–97 (95.9)	77–82 (79.1)	23.8–25.0 (24.2)
	2 ♀ ad.	91, 92	75, 75	23.2–23.8

Tarsus, 24–25; exposed culmen, 19–21.

Range.—Central Tonga groups, Namuka group (Kelefesia, Tonumeia, Telekitonga, Lalona, Mango, and Nomuka iki), Hongahapai and Hongatonga, Haapai group (Tongua, Teauba, Fotuhaa, Uanukuhilifu, Uanukuhahaki, Tofanga, Uoleva, Ofolanga), Tofua, and Kao.

It is interesting to note that this species is very plentiful on the central islands of the Tonga group, but is not known from the southern or northern islands.

Clytorhynchus vitiensis wiglesworthi, new subspecies

Type.—No. 252520, Amer. Mus. Nat. Hist.; ♂ ad.; Rotumah Island; May 18, 1925; J. G. Correia.

Subspecific Characters.—Of the general size of *layardi*, but tail on the average shorter; bill as in *layardi*, long and only slightly compressed, white edges of maxilla, and particularly of the mandible very broad; tips of three outermost tail-feathers pure white or very light buff, gradually merging into the gray of the upper part of the tail-feathers; white tips shorter than in *layardi* or *buensis;* underside similar to that of *vitiensis*, rather light with the rufous on flanks and under tail-coverts quite pronounced; upperside very much as in *buensis*, but without the sand-colored tinge in the hind neck, not as dark brownish as in *vitiensis;* lores, circumference of eyes and sides of head very dark, sometimes almost blackish.

	Wing	Tail	Culmen
10 ♂ ad.	91–96 (94.1)	75–82 (77.6)	23.9–25.0 (24.4)
3 ♀ ad.	91–93 (92.0)	74, 75 (74.5)	23.0–23.9 (23.3)

Tarsus, 20–23; exposed culmen, 19–20 mm.

Most birds (collected in May) are in badly worn plumage or molting.

Range.—Rotumah Island (260 miles northwest of the Fiji Islands).

I name this new subspecies in honor of the late Lionel W. Wiglesworth, who did so much for a better understanding of Polynesian birds, and who had already called attention to a possible difference of the Rotumah birds ('Aves Polynesiae,' p. 27).

Clytorhynchus vitiensis fortunae (Layard)

M. [*yiolestes*] *fortunae* E. L. Layard, 1876, Ibis, p. 145, Fortuna Island.

Subspecific Characters.—Smallest and lightest form of the species; bill short

and very little compressed laterally; greater part of the mandible and edge of maxilla whitish; tips of tail-feathers entirely white (large on VI–IV, small on III), smaller than in *vitiensis*, sharply defined, not gradually merging into the grayish part of the tail-feathers; upperside rather similar to that of *vatuana*, but forehead, lores, and superciliaries distinctly grayish; crown and hind neck with a distinctly grayish tinge, strongly contrasting with the bright cinnamon lower back; underside lighter and of a clearer gray than in most Fijian races, scarcely washed with buff; upper throat whitish with dark shaft-streaks; middle of belly white, flanks tawny, crissum brownish, and tips of tail-feathers whitish.

	Wing	Tail	Culmen
13 ♂ ad.	83–86 (84.8)	67–71 (68.9)	20.0–22.1 (21.1)
8 ♀ ad.	80–85 (82.0)	66–69 (68.1)	20.0–21.0 (20.6)

Tarsus, 20–21; exposed culmen, 16–17 mm.

Most birds are still molting or are freshly molted.

Range.—Horne group, Fotuna and Alofa Islands (May, 1925).

Clytorhynchus vitiensis powelli (Salvin)

Pinarolestes powelli Salvin, 1879, Proc. Zool. Soc. Lond., p. 128, "Tutuila," error for Manua Islands, Samoa.

Subspecific Characters.—Very dark, upperside almost blackish; bill medium sized, not much compressed; bill black, narrow edge on maxilla and mandible whitish; tail fuscous, tail-feathers VI–IV with small and well-defined white tips, III with a narrow white edge, and II and I without white markings; upperside fuscous, darkest on crown and hind neck, tinged with cinnamon on lower back, feathers of rump with cinnamon tips; wing blackish brown, wing-coverts narrowly margined with clay-color; wing-feathers edged with olivaceous brown; underside dirty buffy or ochraceous gray (brighter than drab, R. XLVI), flanks more cinnamon, middle of abdomen whitish; feathers of throat sometimes with dark gray shaft-stripes; under tail-coverts grayish with broad buffy edges.

	Wing	Tail	Culmen
♂ ad.	88–93 (91.3)	73–77 (75.2)	22.8–24.8 (23.9)
♀ ad.	87–90 (88.7)	71–75 (73.0)	23.1–24.2 (23.9)

Tarsus, 24–25; exposed culmen, 17–19 mm.

Most birds are very worn, or have just begun molting.

Range.—Manua Islands (Ofu, Olosinga, Tau), Samoa (December, 1923, January, 1924).

In the original description, Salvin gives Tutuila as the type locality. But this species has never been found on that island since then. All the other known specimens have come from the Manua Islands.

I had an opportunity to examine the type in the British Museum and found that the locality indication "Tutuila" was added on the original label in the handwriting of Philip L. Sclater (through whom Salvin acquired the collection from Powell). It is fairly obvious that some

mistake occurred about the locality, and that the type specimen actually came from the Manua Islands, like the majority of the Powell collection.

Clytorhynchus vitiensis keppeli, new subspecies

TYPE.—No. 250422, Amer. Mus. Nat. Hist.; ♂ ad.; Keppel Island, Pacific Ocean, between Samoa and Tonga; August 26, 1925; R. H. Beck and J. G. Correia.

SUBSPECIFIC CHARACTERS.—Very dark form; bill short and slender, but not as compressed as in *vitiensis;* bill black, narrow edge on maxilla and broad edge on mandible whitish; tail blackish, white tips reduced to narrow white edges on the tips of the two or three outermost tail-feathers; upperside brownish fuscous with a slight olivaceous tinge (near Chaetura drab, R. XLVI), lighter and more brownish on lower back and rump, darker, almost blackish, on hind neck and upper back; feathers of forehead edged with pale brown; wings blackish, upper wing-coverts and wing-feathers narrowly edged with olivaceous fuscous; underside grayish (near mouse gray, R. LI), middle of abdomen slightly lighter, flanks washed with brownish; under tail-coverts dark brownish-gray with white tips.

	WING	TAIL	CULMEN
♂ ad.	89–82 (90.8)	69–74 (71.4)	21.1–22.7 (21.9)
♀ ad.	86–89 (87.1)	67–72 (69.0)	20.9–22.8 (21.8)

Tarsus, 22–23; exposed culmen, 18–20 mm.

The birds (collected in May) are in rather fresh plumage.

RANGE.—Keppel (Niuatobutabu) and Boscawen (Tafahi). These two islands are frequently included in the Tonga group, but in distance as well as in the zoögeographical aspect they are really closer to the Samoan Islands.

This is the darkest form of the genus. There is no difference between the birds from the two islands.

GROUP OF LARGE FORMS

Clytorhynchus nigrogularis

RANGE.—Fiji Islands and Santa Cruz Island.

Clytorhynchus nigrogularis nigrogularis (Layard)

Lalage nigrogularis LAYARD, 1875, Proc. Zool. Soc. Lond., p. 149, Levuka, Ovalau Island.

Myiolestes maximus LAYARD, 1876, Ibis, p. 498, Kandavu Island.

ADULT MALE.—(Grayish phase).—Part of forehead, lores, circumocular feathers, narrow superciliaries, chin, cheeks, upper throat, area surrounding white auricular spot, and sides of hind neck black with a slight bluish gloss; ear-coverts, narrow strip above superciliaries and lower edge of the black throat whitish gray; crown and hind neck slaty gray with a slight brownish tinge; back, upper wing-coverts, and edges of wing-feathers dull olivaceous brown with a grayish tinge; rump and upper tail-coverts more grayish; underside light gray, darker on the breast, lighter on the middle

of the abdomen; flanks washed with brownish olive; under tail-coverts with gray or brownish-gray centers and whitish edges; tail brownish, three lateral pairs of tail-feathers with white or buffy tips; axillaries whitish; lesser under wing-coverts blackish, the larger ones grayish; inner edge of wing-feathers whitish or buffy.

Brownish phase.—There is a great deal of individual variation in this species. In some specimens the crown and the underside are strongly washed with brown, and the back may have an almost rufous coloration. Other adult males that wear a female-like plumage are treated with the immature males.

Adult Female.—Brownish, lighter below; crown and hind neck olive-brown (R. XL), back and scapulars slightly more rufous (Brussels brown, R. III), and rump distinctly so; sides of head light grayish-brown; underside dull buff, lighter on throat and middle of abdomen, darker and more grayish on the sides of the throat and on the breast; middle of lower belly whitish; flanks and under tail-coverts washed with tawny; axillaries, under wing-coverts, and inner edges of wing-feathers buffy; wing brown, feathers with rufous-brown edges; tail olive brown, outer edges near the base cinnamon; tips of outer tail-feathers buffy.

Iris brown; bill black, tip horn-colored; feet bluish gray.

There is some individual variation in the female plumage; some specimens have the upperside much more rufous and the underparts washed with tawny. Some specimens show an approach toward the male plumage. No. 252347 (Taviuni) and No. 252547 (Vanua Levu) have a few dull blackish feathers on cheeks and throat, but agree otherwise with females from the same islands. No. 252544 (Viti Levu) and No. 252532 (Ovalau), however, are much more advanced in this respect; the entire upper throat, superciliaries, and auriculars are dull blackish, many feathers with buffy tips; these two birds are also more grayish, less rufous brown, in their general coloration, approaching the males also in this respect. It is possible that one of the two (No. 252532) is a wrongly sexed male. No approach toward the male plumage is shown by any of the four females from Kandavu. This is noteworthy since, in the males from that island, the characters of that sex are also less pronounced than in the males from other islands. There may be a racial difference in this respect between birds from Kandavu and those from the rest of the Fiji group.

Immature Male (II phase).—Just as in *Pachycephala pectoralis* and certain other species of birds (cf. Amer. Mus. Novit., No. 522, p. 11), there are two phases of plumages in those males that do not wear the fully adult plumage as described above. There are six birds in the collection with large or partly enlarged testes and with the characters of adult birds on wing and tail, which have a plumage similar to that of the female. In three of these there are no blackish feathers on forehead, cheeks, and throat, while they are present in three others. Some males of this species possibly never attain the fully adult plumage; this is particularly probable for birds from Kandavu Island.

Immature Female.—Agrees in general coloration with the adult female, but wing-feathers and upper wing-coverts are softer, alula and first primary more rounded, tail-feathers narrower and more pointed, and tomia of mandibles black except at the tip.

Immature Male (I phase).—Indistinguishable from the immature female.

Measurements of Birds from the Different Islands

	Taviuni	Vanua Levu	Viti Levu	Ovalau	Kandavu
Wing					
♂ ad.	103–105 (103.8)	104–106(105.5)	104–110 (106.3)		
♂ imm. (II ph.)	100, 102, 105				102, 103, 105
♂ imm. (I ph.)		100, 103			98
♀ ad.	101, 102	98	102, 104		97–103 (99.8)
♀ imm.		98	102	98	
Tail					
♂ ad.	84–85 (84.8)	82–88 (86.2)	85–92 (87.6)		
♂ imm. (II ph.)	83, 83, 87				80, 84, 84
♂ imm. (I ph.)		86			79
♀ ad.	83, 83	80, 82	86, 88		79–83 (80.8)
♀ imm.		87	88	85	
Culmen					
♂ ad.	28.3-30.1(29.1)	27.5–29.9(28.8)	27.0–29.2(28.4)		
♂ imm. (II ph.)	26.1, 27.1, 28.7				26.9, 28.0, 28.8
♂ imm. (I ph.)		26.8, 27.0			29.0
♀ ad.	26.9, 30.0	27.1, 27.2	28.1, 28.8		27.1-29.3 (28.1)
♀ imm.			28.9	28.1	
Tarsus	24–27 (25.5)				

MATERIAL EXAMINED.—Taviuni 5 ♂ ad., 3 ♂ semi-ad. (II phase), 2 ♀ ad.; Vanua Levu 3 ♂ ad., 2 ♂ imm. (I phase), 2 ♀ ad., 1 ♀ imm.; Viti Levu 7 ♂ ad., 2 ♀ ad., 1 ♀ imm.; Ovalau 1 ♂ imm. (?), 1 ♀ imm.; Kandavu 3 ♂ semi-ad. (II phase), 1 ♂ imm., 4 ♀ ad.

RANGE.—Larger islands of the Fiji group.

The classification of this species up to the present time has been in a state of great disorder for three reasons: first, the disregard of the strong but not recognized sexual dimorphism; second, the pronounced individual variation; and third, the wrong application of the name *macrorhynchus* Layard.

A short survey of the taxonomic history of this species may help in clearing the doubtful points. The male in the fully adult plumage was described from Levuka, Ovalau, as *Lalage nigrogularis* by Layard (P. Z. S., 1875, p. 149). In the following year Finsch (P. Z. S., 1876, p. 20) pointed out that the genus *Myiolestes* was the proper position for this bird, a classification which was adopted by most of the subsequent writers and also by Sharpe in the 'Catalogue of Birds' (1877, III, p. 301). In 1876, Layard described, from Kandavu, a male in female plumage as *Myiolestes maximus* (Ibis, 1876, p. 498) without any reference to *nigrogularis*, only comparing his "new species" with the smaller species *M. vitiensis* Hartlaub. In 1877, Sharpe, evidently without having seen a specimen of *maximus*, placed it as a subspecies of *macrorhynchus* which apparently is a subspecies of *vitiensis* (see p. 10). This arrangement was adopted by Wiglesworth ('Aves Polynesiae,' p. 28) and Wetmore (Ibis, 1925, p. 850).

The material of the Whitney Expedition permits me to prove not only that *maximus* is nothing but the female plumage of *nigrogularis*, but also that this species shows no recognizable geographical variation within its Fijian range comprising the five islands, Taviuni, Vanua Levu, Viti Levu, Ovalau, and Kandavu.

Although the material before me contains more specimens of this species than ever were known previously, it is not so rich as I wish it were. There are no fully adult males from Kandavu in the collection, and the series from the other islands also are not so large as desirable for a highly variable species. However, I am able to make the following remarks on the individual and geographical variation.

As described above, the males of this species may occur in a grayish or in a brownish phase, with many intermediates. The following table will illustrate the proportion of the different phases from the different islands.

	Brownish	Intermediate	Grayish
Taviuni	1(+3)[1]	3	1
Vanua Levu	2	2	1
Viti Levu		3	4
Kandavu	(2)[1]		

It can be seen from this table that the populations from Taviuni and Vanua Levu have a high percentage of brownish birds, while on Viti Levu we find a majority of grayish specimens. Unfortunately the material from Kandavu is not sufficient to show which phase prevails on that island. Birds not fully adult seem always to belong to the brownish phase.

In the females there is also a slight indication of a brownish and grayish phase. However, we find specimens of both phases about equally distributed on all the islands.

Clytorhynchus nigrogularis sanctaecrucis, new subspecies

Type.—No. 217985a, Amer. Mus. Nat. Hist.; ♂ ad.; Santa Cruz Island, Santa Cruz Islands; February 24, 1927; R. H. Beck.

Adult Male.—Somewhat similar to *nigrogularis*, but very much smaller, lighter, and less grayish; forehead, loral region, cheeks, upper throat, and posterior edge of ear-coverts glossy black; a few whitish feathers sprinkled in on throat and cheeks (sign of immaturity?); crown, upper back and scapulars dark brown, lower back and rump more rufous; upper tail-coverts mottled blackish and dark rufous brown; auriculars buffy; sides of neck and posterior part of superciliary grayish; lower throat whitish, sides of throat grayish; breast, abdomen, flanks, and under tail-coverts whitish washed with light ochraceous buff; middle of abdomen whitish; axillaries and greater under wing-coverts white or light buff, bend of wing and lesser under wing-coverts blackish; thighs blackish; wings brown, inner primaries and outer secondaries with tawny edges, inner secondaries with blackish margins; upper wing-coverts with black edges, some of the lesser wing-coverts entirely glossy black; tail dark brown, edges of central tail-feathers blackish near the base, outer tail-feathers with narrow buffy tips.

Immature Male (II phase).—Similar to the adult male, but blackish on the forehead and circumocular region only; no black on throat, wings or thighs; tail and wings more brownish; rufous buffy tips on outer tail-feathers broader.

Tarsus, 23 mm.

	Wing	Tail	Culmen
1 ♂ ad.	91	72	23.3
1 ♂ im. (II phase)	90	72	24.1

Range.—Santa Cruz Island, Santa Cruz Islands.

Unfortunately only two specimens of this very interesting new form were collected. It is very distinct and would probably be regarded as a species by many conservative ornithologists. The bill in the new form is

[1]In brackets, not fully adult males.

more than proportionally smaller and decidedly less heavy than in *nigrogularis*. It is less deep and gives an impression of greater slenderness. The color pattern of the two forms, however, is essentially the same. This is more evidence for my statement that in these Polynesian flycatchers the form and proportion of the bill frequently change more than the coloration. The bird, described as adult, has possibly not yet reached the fully adult plumage; a small grayish patch before the eye, a few scattered white feathers on the throat, and the buffy tinge of the ear-coverts seem to indicate this.

Clytorhynchus hamlini (Mayr)

Pinarolestes hamlini MAYR, 1931, Amer. Mus. Novit., No. 486, p. 23, Rennell Island.

RANGE.—Rennell Island.

Description and measurements, see Mayr, *loc. cit.*, pp. 23, 24.

This species is undoubtedly related to *nigrogularis*, but it differs in so many essential characters that it has to be regarded as a good species. Its main differences from *nigrogularis* are: the long and narrow bill, the absence of gray tones in the plumage, the black coloration of the ear-coverts, the brilliant white axillaries and under wing-coverts, the absence of light tips on the tail-feathers, and the differences in the juvenal plumage.